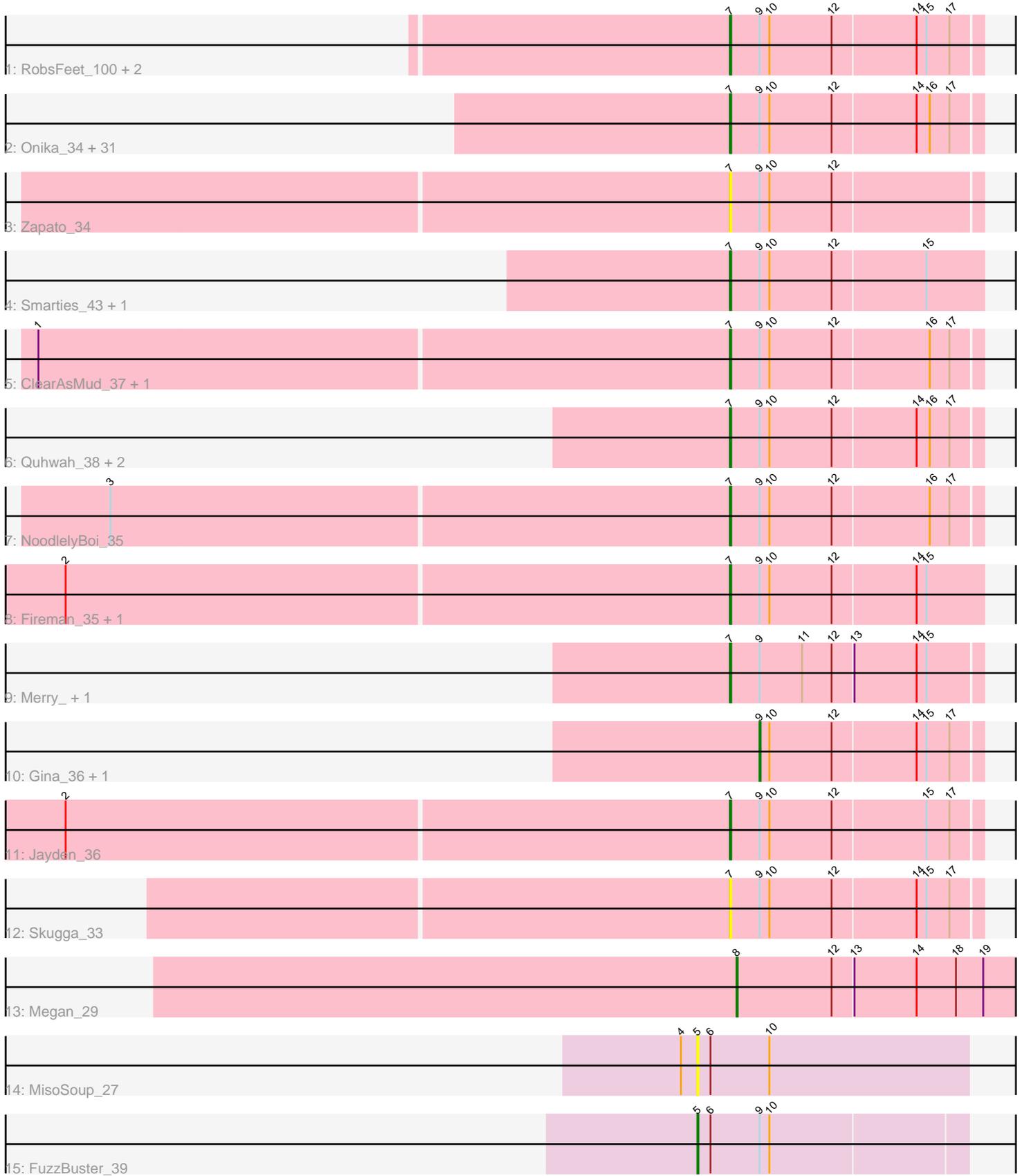


Pham 291215



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 291215 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291215 has 55 members, 8 are drafts.

Phages represented in each track:

- Track 1 : RobsFeet\_100, Shrubaron\_35, Metamorphoo\_93
- Track 2 : Onika\_34, Honeyfin\_36, Selwyn23\_36, Pulchra\_36, Piperis\_35, Ramiel05\_34, Glorp\_36, Kowalski\_34, Antares\_35, Cranjis\_36, Jollipop\_35, Lucretia\_35, Ganandorf\_34, Phrancesco\_35, PiperSansNom\_35, Shotgun\_34, Paschalis\_34, CrazyRich\_34, Hermeonysus\_34, PhedwardCullen\_33, LittleFortune\_36, BeagleBug\_34, Jefe\_35, Savannah\_34, Scumberland\_36, Busephilis\_34, Yeti\_35, Phorgeous\_34, Rockwell\_34, BrazzalePHS\_34, PierreOrion\_35, Crisis\_36
- Track 3 : Zapato\_34
- Track 4 : Smarties\_43, Ariadne\_43
- Track 5 : ClearAsMud\_37, SirFrank\_34
- Track 6 : Quhwah\_38, EarickHC\_35, KaiHaiDragon\_35
- Track 7 : NoodlelyBoi\_35
- Track 8 : Fireman\_35, Tyumbra\_33
- Track 9 : Merry\_, Sunny\_
- Track 10 : Gina\_36, Teamocil\_36
- Track 11 : Jayden\_36
- Track 12 : Skugga\_33
- Track 13 : Megan\_29
- Track 14 : MisoSoup\_27
- Track 15 : FuzzBuster\_39

### ***Summary of Final Annotations (See graph section above for start numbers):***

The start number called the most often in the published annotations is 7, it was called in 43 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antares\_35, Ariadne\_43, BeagleBug\_34, BrazzalePHS\_34, Busephilis\_34, ClearAsMud\_37, Cranjis\_36, CrazyRich\_34, Crisis\_36, EarickHC\_35, Fireman\_35, Ganandorf\_34, Glorp\_36, Hermeonysus\_34, Honeyfin\_36, Jayden\_36, Jefe\_35, Jollipop\_35, KaiHaiDragon\_35, Kowalski\_34, LittleFortune\_36, Lucretia\_35, Merry\_, Metamorphoo\_93, NoodlelyBoi\_35, Onika\_34, Paschalis\_34, PhedwardCullen\_33, Phorgeous\_34, Phrancesco\_35, PierreOrion\_35, PiperSansNom\_35, Piperis\_35,

Pulchra\_36, Quhwah\_38, Ramiel05\_34, RobsFeet\_100, Rockwell\_34, Savannah\_34, Scumberland\_36, Selwyn23\_36, Shotgun\_34, Shrubaron\_35, SirFrank\_34, Skugga\_33, Smarties\_43, Sunny\_, Tyrumbra\_33, Yeti\_35, Zapato\_34,

Genes that have the "Most Annotated" start but do not call it:

- 

Genes that do not have the "Most Annotated" start:

- FuzzBuster\_39, Gina\_36, Megan\_29, MisoSoup\_27, Teamocil\_36,

### Summary by start number:

Start 5:

- Found in 2 of 55 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FuzzBuster\_39 (GM), MisoSoup\_27 (GM),

Start 7:

- Found in 50 of 55 ( 90.9% ) of genes in pham
- Manual Annotations of this start: 43 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antares\_35 (EC), Ariadne\_43 (EC), BeagleBug\_34 (EC), BrazzalePHS\_34 (EC), Busephilis\_34 (EC), ClearAsMud\_37 (EC), Cranjjs\_36 (EC), CrazyRich\_34 (EC), Crisis\_36 (EC), EarickHC\_35 (EC), Fireman\_35 (EC), Ganandorf\_34 (EC), Glorp\_36 (EC), Hermeonysus\_34 (EC), Honeyfin\_36 (EC), Jayden\_36 (EC), Jefe\_35 (EC), Jollipop\_35 (EC), KaiHaiDragon\_35 (EC), Kowalski\_34 (EC), LittleFortune\_36 (EC), Lucretia\_35 (EC), Merry\_ (EC), Metamorphoo\_93 (EC), NoodlelyBoi\_35 (EC), Onika\_34 (EC), Paschalis\_34 (EC), PhedwardCullen\_33 (EC), Phorgeous\_34 (EC), Phrancesco\_35 (EC), PierreOrion\_35 (EC), PiperSansNom\_35 (EC), Piperis\_35 (EC), Pulchra\_36 (EC), Quhwah\_38 (EC), Ramiel05\_34 (EC), RobsFeet\_100 (EC), Rockwell\_34 (EC), Savannah\_34 (EC), Scumberland\_36 (EC), Selwyn23\_36 (EC), Shotgun\_34 (EC), Shrubaron\_35 (EC), SirFrank\_34 (EC), Skugga\_33 (EC), Smarties\_43 (EC), Sunny\_ (EC), Tyrumbra\_33 (EC), Yeti\_35 (EC), Zapato\_34 (EC),

Start 8:

- Found in 1 of 55 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Megan\_29 (EC),

Start 9:

- Found in 53 of 55 ( 96.4% ) of genes in pham
- Manual Annotations of this start: 2 of 47
- Called 3.8% of time when present
- Phage (with cluster) where this start called: Gina\_36 (EC), Teamocil\_36 (EC),

### Summary by clusters:

There are 2 clusters represented in this pham: GM, EC,

Info for manual annotations of cluster EC:

- Start number 7 was manually annotated 43 times for cluster EC.
- Start number 8 was manually annotated 1 time for cluster EC.
- Start number 9 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster GM:

- Start number 5 was manually annotated 1 time for cluster GM.

**Gene Information:**

Gene: Antares\_35 Start: 20527, Stop: 20751, Start Num: 7

Candidate Starts for Antares\_35:

(Start: 7 @20527 has 43 MA's), (Start: 9 @20554 has 2 MA's), (10, 20563), (12, 20620), (14, 20695), (16, 20707), (17, 20725),

Gene: Ariadne\_43 Start: 22227, Stop: 22454, Start Num: 7

Candidate Starts for Ariadne\_43:

(Start: 7 @22227 has 43 MA's), (Start: 9 @22254 has 2 MA's), (10, 22263), (12, 22320), (15, 22404),

Gene: BeagleBug\_34 Start: 20308, Stop: 20532, Start Num: 7

Candidate Starts for BeagleBug\_34:

(Start: 7 @20308 has 43 MA's), (Start: 9 @20335 has 2 MA's), (10, 20344), (12, 20401), (14, 20476), (16, 20488), (17, 20506),

Gene: BrazzalePHS\_34 Start: 20322, Stop: 20546, Start Num: 7

Candidate Starts for BrazzalePHS\_34:

(Start: 7 @20322 has 43 MA's), (Start: 9 @20349 has 2 MA's), (10, 20358), (12, 20415), (14, 20490), (16, 20502), (17, 20520),

Gene: Busephilis\_34 Start: 20257, Stop: 20481, Start Num: 7

Candidate Starts for Busephilis\_34:

(Start: 7 @20257 has 43 MA's), (Start: 9 @20284 has 2 MA's), (10, 20293), (12, 20350), (14, 20425), (16, 20437), (17, 20455),

Gene: ClearAsMud\_37 Start: 21036, Stop: 21260, Start Num: 7

Candidate Starts for ClearAsMud\_37:

(1, 20409), (Start: 7 @21036 has 43 MA's), (Start: 9 @21063 has 2 MA's), (10, 21072), (12, 21129), (16, 21216), (17, 21234),

Gene: Cranjis\_36 Start: 20482, Stop: 20706, Start Num: 7

Candidate Starts for Cranjis\_36:

(Start: 7 @20482 has 43 MA's), (Start: 9 @20509 has 2 MA's), (10, 20518), (12, 20575), (14, 20650), (16, 20662), (17, 20680),

Gene: CrazyRich\_34 Start: 20291, Stop: 20515, Start Num: 7

Candidate Starts for CrazyRich\_34:

(Start: 7 @20291 has 43 MA's), (Start: 9 @20318 has 2 MA's), (10, 20327), (12, 20384), (14, 20459), (16, 20471), (17, 20489),

Gene: Crisis\_36 Start: 20276, Stop: 20500, Start Num: 7

Candidate Starts for Crisis\_36:

(Start: 7 @20276 has 43 MA's), (Start: 9 @20303 has 2 MA's), (10, 20312), (12, 20369), (14, 20444), (16, 20456), (17, 20474),

Gene: EarickHC\_35 Start: 20202, Stop: 20426, Start Num: 7

Candidate Starts for EarickHC\_35:

(Start: 7 @20202 has 43 MA's), (Start: 9 @20229 has 2 MA's), (10, 20238), (12, 20295), (14, 20370), (16, 20382), (17, 20400),

Gene: Fireman\_35 Start: 20093, Stop: 20320, Start Num: 7

Candidate Starts for Fireman\_35:

(2, 19490), (Start: 7 @20093 has 43 MA's), (Start: 9 @20120 has 2 MA's), (10, 20129), (12, 20186), (14, 20261), (15, 20270),

Gene: FuzzBuster\_39 Start: 20330, Stop: 20572, Start Num: 5

Candidate Starts for FuzzBuster\_39:

(Start: 5 @20330 has 1 MA's), (6, 20342), (Start: 9 @20387 has 2 MA's), (10, 20396),

Gene: Ganandorf\_34 Start: 20338, Stop: 20562, Start Num: 7

Candidate Starts for Ganandorf\_34:

(Start: 7 @20338 has 43 MA's), (Start: 9 @20365 has 2 MA's), (10, 20374), (12, 20431), (14, 20506), (16, 20518), (17, 20536),

Gene: Gina\_36 Start: 20146, Stop: 20343, Start Num: 9

Candidate Starts for Gina\_36:

(Start: 9 @20146 has 2 MA's), (10, 20155), (12, 20212), (14, 20287), (15, 20296), (17, 20317),

Gene: Glorp\_36 Start: 20339, Stop: 20563, Start Num: 7

Candidate Starts for Glorp\_36:

(Start: 7 @20339 has 43 MA's), (Start: 9 @20366 has 2 MA's), (10, 20375), (12, 20432), (14, 20507), (16, 20519), (17, 20537),

Gene: Hermeonysus\_34 Start: 20211, Stop: 20435, Start Num: 7

Candidate Starts for Hermeonysus\_34:

(Start: 7 @20211 has 43 MA's), (Start: 9 @20238 has 2 MA's), (10, 20247), (12, 20304), (14, 20379), (16, 20391), (17, 20409),

Gene: Honeyfin\_36 Start: 20526, Stop: 20750, Start Num: 7

Candidate Starts for Honeyfin\_36:

(Start: 7 @20526 has 43 MA's), (Start: 9 @20553 has 2 MA's), (10, 20562), (12, 20619), (14, 20694), (16, 20706), (17, 20724),

Gene: Jayden\_36 Start: 20269, Stop: 20493, Start Num: 7

Candidate Starts for Jayden\_36:

(2, 19666), (Start: 7 @20269 has 43 MA's), (Start: 9 @20296 has 2 MA's), (10, 20305), (12, 20362), (15, 20446), (17, 20467),

Gene: Jefe\_35 Start: 20263, Stop: 20487, Start Num: 7

Candidate Starts for Jefe\_35:

(Start: 7 @20263 has 43 MA's), (Start: 9 @20290 has 2 MA's), (10, 20299), (12, 20356), (14, 20431), (16, 20443), (17, 20461),

Gene: Jollipop\_35 Start: 20608, Stop: 20832, Start Num: 7

Candidate Starts for Jollipop\_35:

(Start: 7 @20608 has 43 MA's), (Start: 9 @20635 has 2 MA's), (10, 20644), (12, 20701), (14, 20776), (16, 20788), (17, 20806),

Gene: KaiHaiDragon\_35 Start: 20202, Stop: 20426, Start Num: 7

Candidate Starts for KaiHaiDragon\_35:

(Start: 7 @20202 has 43 MA's), (Start: 9 @20229 has 2 MA's), (10, 20238), (12, 20295), (14, 20370), (16, 20382), (17, 20400),

Gene: Kowalski\_34 Start: 20318, Stop: 20542, Start Num: 7

Candidate Starts for Kowalski\_34:

(Start: 7 @20318 has 43 MA's), (Start: 9 @20345 has 2 MA's), (10, 20354), (12, 20411), (14, 20486), (16, 20498), (17, 20516),

Gene: LittleFortune\_36 Start: 20568, Stop: 20792, Start Num: 7

Candidate Starts for LittleFortune\_36:

(Start: 7 @20568 has 43 MA's), (Start: 9 @20595 has 2 MA's), (10, 20604), (12, 20661), (14, 20736), (16, 20748), (17, 20766),

Gene: Lucretia\_35 Start: 20255, Stop: 20479, Start Num: 7

Candidate Starts for Lucretia\_35:

(Start: 7 @20255 has 43 MA's), (Start: 9 @20282 has 2 MA's), (10, 20291), (12, 20348), (14, 20423), (16, 20435), (17, 20453),

Gene: Megan\_29 Start: 21646, Stop: 21909, Start Num: 8

Candidate Starts for Megan\_29:

(Start: 8 @21646 has 1 MA's), (12, 21733), (13, 21751), (14, 21808), (18, 21844), (19, 21868),

Gene: Merry\_ Start: 22378, Stop: 22602, Start Num: 7

Candidate Starts for Merry\_:

(Start: 7 @22378 has 43 MA's), (Start: 9 @22405 has 2 MA's), (11, 22444), (12, 22471), (13, 22489), (14, 22546), (15, 22555),

Gene: Metamorphoo\_93 Start: 20121, Stop: 20345, Start Num: 7

Candidate Starts for Metamorphoo\_93:

(Start: 7 @20121 has 43 MA's), (Start: 9 @20148 has 2 MA's), (10, 20157), (12, 20214), (14, 20289), (15, 20298), (17, 20319),

Gene: MisoSoup\_27 Start: 16689, Stop: 16937, Start Num: 5

Candidate Starts for MisoSoup\_27:

(4, 16674), (Start: 5 @16689 has 1 MA's), (6, 16701), (10, 16755),

Gene: NoodlelyBoi\_35 Start: 20646, Stop: 20870, Start Num: 7

Candidate Starts for NoodlelyBoi\_35:

(3, 20085), (Start: 7 @20646 has 43 MA's), (Start: 9 @20673 has 2 MA's), (10, 20682), (12, 20739), (16, 20826), (17, 20844),

Gene: Onika\_34 Start: 20293, Stop: 20517, Start Num: 7

Candidate Starts for Onika\_34:

(Start: 7 @20293 has 43 MA's), (Start: 9 @20320 has 2 MA's), (10, 20329), (12, 20386), (14, 20461), (16, 20473), (17, 20491),

Gene: Paschalis\_34 Start: 20306, Stop: 20530, Start Num: 7

Candidate Starts for Paschalis\_34:

(Start: 7 @20306 has 43 MA's), (Start: 9 @20333 has 2 MA's), (10, 20342), (12, 20399), (14, 20474), (16, 20486), (17, 20504),

Gene: PhedwardCullen\_33 Start: 20051, Stop: 20275, Start Num: 7

Candidate Starts for PhedwardCullen\_33:

(Start: 7 @20051 has 43 MA's), (Start: 9 @20078 has 2 MA's), (10, 20087), (12, 20144), (14, 20219), (16, 20231), (17, 20249),

Gene: Phorgeous\_34 Start: 20160, Stop: 20384, Start Num: 7

Candidate Starts for Phorgeous\_34:

(Start: 7 @20160 has 43 MA's), (Start: 9 @20187 has 2 MA's), (10, 20196), (12, 20253), (14, 20328), (16, 20340), (17, 20358),

Gene: Phrancesco\_35 Start: 20438, Stop: 20662, Start Num: 7

Candidate Starts for Phrancesco\_35:

(Start: 7 @20438 has 43 MA's), (Start: 9 @20465 has 2 MA's), (10, 20474), (12, 20531), (14, 20606), (16, 20618), (17, 20636),

Gene: PierreOrion\_35 Start: 20461, Stop: 20685, Start Num: 7

Candidate Starts for PierreOrion\_35:

(Start: 7 @20461 has 43 MA's), (Start: 9 @20488 has 2 MA's), (10, 20497), (12, 20554), (14, 20629), (16, 20641), (17, 20659),

Gene: PiperSansNom\_35 Start: 20613, Stop: 20837, Start Num: 7

Candidate Starts for PiperSansNom\_35:

(Start: 7 @20613 has 43 MA's), (Start: 9 @20640 has 2 MA's), (10, 20649), (12, 20706), (14, 20781), (16, 20793), (17, 20811),

Gene: Piperis\_35 Start: 20283, Stop: 20507, Start Num: 7

Candidate Starts for Piperis\_35:

(Start: 7 @20283 has 43 MA's), (Start: 9 @20310 has 2 MA's), (10, 20319), (12, 20376), (14, 20451), (16, 20463), (17, 20481),

Gene: Pulchra\_36 Start: 20683, Stop: 20907, Start Num: 7

Candidate Starts for Pulchra\_36:

(Start: 7 @20683 has 43 MA's), (Start: 9 @20710 has 2 MA's), (10, 20719), (12, 20776), (14, 20851), (16, 20863), (17, 20881),

Gene: Quhwah\_38 Start: 20909, Stop: 21133, Start Num: 7

Candidate Starts for Quhwah\_38:

(Start: 7 @20909 has 43 MA's), (Start: 9 @20936 has 2 MA's), (10, 20945), (12, 21002), (14, 21077), (16, 21089), (17, 21107),

Gene: Ramiel05\_34 Start: 20318, Stop: 20542, Start Num: 7

Candidate Starts for Ramiel05\_34:

(Start: 7 @20318 has 43 MA's), (Start: 9 @20345 has 2 MA's), (10, 20354), (12, 20411), (14, 20486), (16, 20498), (17, 20516),

Gene: RobsFeet\_100 Start: 20402, Stop: 20626, Start Num: 7

Candidate Starts for RobsFeet\_100:

(Start: 7 @20402 has 43 MA's), (Start: 9 @20429 has 2 MA's), (10, 20438), (12, 20495), (14, 20570), (15, 20579), (17, 20600),

Gene: Rockwell\_34 Start: 20318, Stop: 20542, Start Num: 7  
Candidate Starts for Rockwell\_34:  
(Start: 7 @20318 has 43 MA's), (Start: 9 @20345 has 2 MA's), (10, 20354), (12, 20411), (14, 20486),  
(16, 20498), (17, 20516),

Gene: Savannah\_34 Start: 20345, Stop: 20569, Start Num: 7  
Candidate Starts for Savannah\_34:  
(Start: 7 @20345 has 43 MA's), (Start: 9 @20372 has 2 MA's), (10, 20381), (12, 20438), (14, 20513),  
(16, 20525), (17, 20543),

Gene: Scumberland\_36 Start: 20534, Stop: 20758, Start Num: 7  
Candidate Starts for Scumberland\_36:  
(Start: 7 @20534 has 43 MA's), (Start: 9 @20561 has 2 MA's), (10, 20570), (12, 20627), (14, 20702),  
(16, 20714), (17, 20732),

Gene: Selwyn23\_36 Start: 20511, Stop: 20735, Start Num: 7  
Candidate Starts for Selwyn23\_36:  
(Start: 7 @20511 has 43 MA's), (Start: 9 @20538 has 2 MA's), (10, 20547), (12, 20604), (14, 20679),  
(16, 20691), (17, 20709),

Gene: Shotgun\_34 Start: 20144, Stop: 20368, Start Num: 7  
Candidate Starts for Shotgun\_34:  
(Start: 7 @20144 has 43 MA's), (Start: 9 @20171 has 2 MA's), (10, 20180), (12, 20237), (14, 20312),  
(16, 20324), (17, 20342),

Gene: Shrubaron\_35 Start: 20036, Stop: 20260, Start Num: 7  
Candidate Starts for Shrubaron\_35:  
(Start: 7 @20036 has 43 MA's), (Start: 9 @20063 has 2 MA's), (10, 20072), (12, 20129), (14, 20204),  
(15, 20213), (17, 20234),

Gene: SirFrank\_34 Start: 20246, Stop: 20470, Start Num: 7  
Candidate Starts for SirFrank\_34:  
(1, 19619), (Start: 7 @20246 has 43 MA's), (Start: 9 @20273 has 2 MA's), (10, 20282), (12, 20339),  
(16, 20426), (17, 20444),

Gene: Skugga\_33 Start: 20135, Stop: 20359, Start Num: 7  
Candidate Starts for Skugga\_33:  
(Start: 7 @20135 has 43 MA's), (Start: 9 @20162 has 2 MA's), (10, 20171), (12, 20228), (14, 20303),  
(15, 20312), (17, 20333),

Gene: Smarties\_43 Start: 22227, Stop: 22454, Start Num: 7  
Candidate Starts for Smarties\_43:  
(Start: 7 @22227 has 43 MA's), (Start: 9 @22254 has 2 MA's), (10, 22263), (12, 22320), (15, 22404),

Gene: Sunny\_ Start: 22380, Stop: 22604, Start Num: 7  
Candidate Starts for Sunny\_:  
(Start: 7 @22380 has 43 MA's), (Start: 9 @22407 has 2 MA's), (11, 22446), (12, 22473), (13, 22491),  
(14, 22548), (15, 22557),

Gene: Teamocil\_36 Start: 20245, Stop: 20442, Start Num: 9  
Candidate Starts for Teamocil\_36:  
(Start: 9 @20245 has 2 MA's), (10, 20254), (12, 20311), (14, 20386), (15, 20395), (17, 20416),

Gene: Tyrumbra\_33 Start: 19436, Stop: 19663, Start Num: 7

Candidate Starts for Tyrumbra\_33:

(2, 18833), (Start: 7 @19436 has 43 MA's), (Start: 9 @19463 has 2 MA's), (10, 19472), (12, 19529), (14, 19604), (15, 19613),

Gene: Yeti\_35 Start: 20313, Stop: 20537, Start Num: 7

Candidate Starts for Yeti\_35:

(Start: 7 @20313 has 43 MA's), (Start: 9 @20340 has 2 MA's), (10, 20349), (12, 20406), (14, 20481), (16, 20493), (17, 20511),

Gene: Zapato\_34 Start: 20158, Stop: 20382, Start Num: 7

Candidate Starts for Zapato\_34:

(Start: 7 @20158 has 43 MA's), (Start: 9 @20185 has 2 MA's), (10, 20194), (12, 20251),